

CLAIMS

1. A suction and discharge valve arrangement for a small hermetic compressor of the type presenting a compression cylinder (1), which has an end closed by a valve plate (10), and which is supplied by a suction pipe (5) disposed adjacent to the valve plate and substantially orthogonal to the cylinder axis, characterized in that the valve plate (10) is provided with a discharge orifice (11) substantially centralized in relation to the axial projection (20) of the internal contour of the compression cylinder (1), and with at least one suction orifice (12), which is internal to said axial projection (20) of the internal contour of the compression cylinder (1) and external to the contour of the discharge orifice (11), and occupying an annular sector substantially concentric to at least one of the internal contour of the compression cylinder (1) and discharge orifice (11) in order to maintain with the latter a certain minimum spacing and defining at least part of a suction passage (P), with an end opened to the inside of the compression cylinder (1) and an opposite end opened and connected to the suction pipe (5), by means of a transition portion (T), which is incorporated to one of the parts defined by the suction passage (P) and the suction pipe (5), and with a cross section configured to impart to the gas flow a change of direction, which allows the whole cross sectional area of the suction orifice (12) to be fully used for gas flow passage.
2. Arrangement, according to claim 1, characterized in that the transition portion (T) defines a duct portion connecting the suction pipe (5) to the suction passage (P) and being at least partially bent in its internal profile.

3. Arrangement, according to claim 2, characterized in that the transition portion (T) is incorporated to the suction passage (P).

4. Arrangement, according to claim 3, characterized in  
5 that the suction portion (P) is defined by the suction orifice (12) itself, presenting a gas inlet end (12) coupled to the suction pipe (5) and a gas outlet end (12b) opened to the inside the compression cylinder (1).

10 5. Arrangement, according to claim 4, characterized in that the transition portion (T) is defined by the gas inlet end (12a) of the suction orifice (12), which is curved in part of its contour in order to define a profile for gas admission.

15 6. Arrangement, according to claim 4, characterized in that the valve plate (10) affixes, on its face turned to the inside of the compression cylinder, one of the end portions (31) of a suction valve vane (30), with its other end portion (32) being displaced, by elastic  
20 deformation of the vane, between a closed valve position, blocking the suction orifice (12), and an open valve position, liberating said suction orifice (12), said suction valve vane (30) being located  
25 inside the axial projection of the internal contour of the compression cylinder (1) and outside the axial projection of the contour of the discharge cylinder (11).

7. Arrangement, according to claim 6, characterized in  
30 that the end portions (31, 32) of the suction valve vane (30) are opposite to each other and located in regions of the valve plate (10) that are diametrically opposite in relation to the contour of the discharge orifice (11).

8. Arrangement, according to claim 7, characterized in that the suction valve vane (30) presents a substantially "U" shaped contour.

5 9. Arrangement, according to claim 1, characterized in that the suction orifice (12) is in the shape of an annular sector substantially concentric to at least one of the internal contours of the compression cylinder (1) and discharge orifice (11).

10 10. Arrangement, according to claim 1, characterized in that the discharge orifice (11) is circular and coaxial to the internal contour of the compression cylinder (1).